

(19) World Intellectual Property  
Organization  
International Bureau



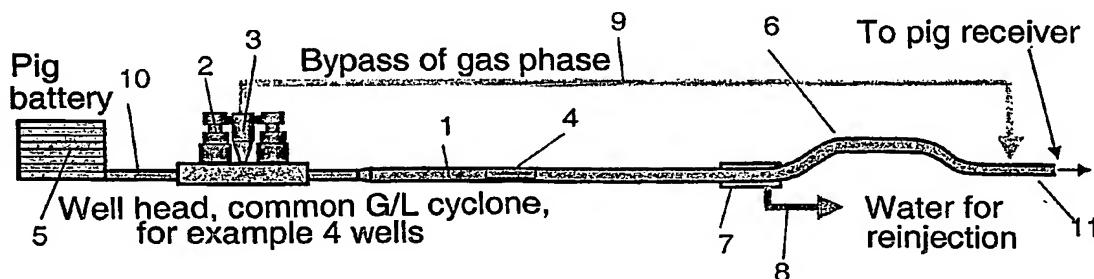
(43) International Publication Date  
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number  
**WO 2005/005777 A1**

- (51) International Patent Classification<sup>7</sup>: **E21B 43/36**, B01D 17/06
- (21) International Application Number: PCT/NO2004/000211
- (22) International Filing Date: 8 July 2004 (08.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
20033153 9 July 2003 (09.07.2003) NO
- (71) Applicant (for all designated States except US): **NORSK HYDRO ASA** [NO/NO]; N-0240 Oslo (NO).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **GRAMME**, Per [NO/NO]; Steinringen 12, N-3931 Porsgrunn (NO). **LIE, Gunnar, Hannibal** [NO/NO]; Korpeliveien 23, N-3928 Porsgrunn (NO).
- (74) Agent: **HOFSETH, Svein**; Norsk Hydro ASA, N-0240 Oslo (NO).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A PIPE SEPARATOR WITH IMPROVED SEPARATION



(57) Abstract: A pipe separator for separation of fluids, for example separation of oil, gas and water in connection with the extraction and production of oil and gas from formations under the sea bed. It comprises an extended, tubular separator body (1) that has a diameter at the inlet and outlet ends that is mainly equal to or slightly greater than the diameter of the transport pipe to which the separator body is connected. A cyclone (3) is arranged upstream of the separator body for separation of any gas present. An electrostatic coalescer (4) is incorporated in and constitutes an integrated part of the separator body (1).